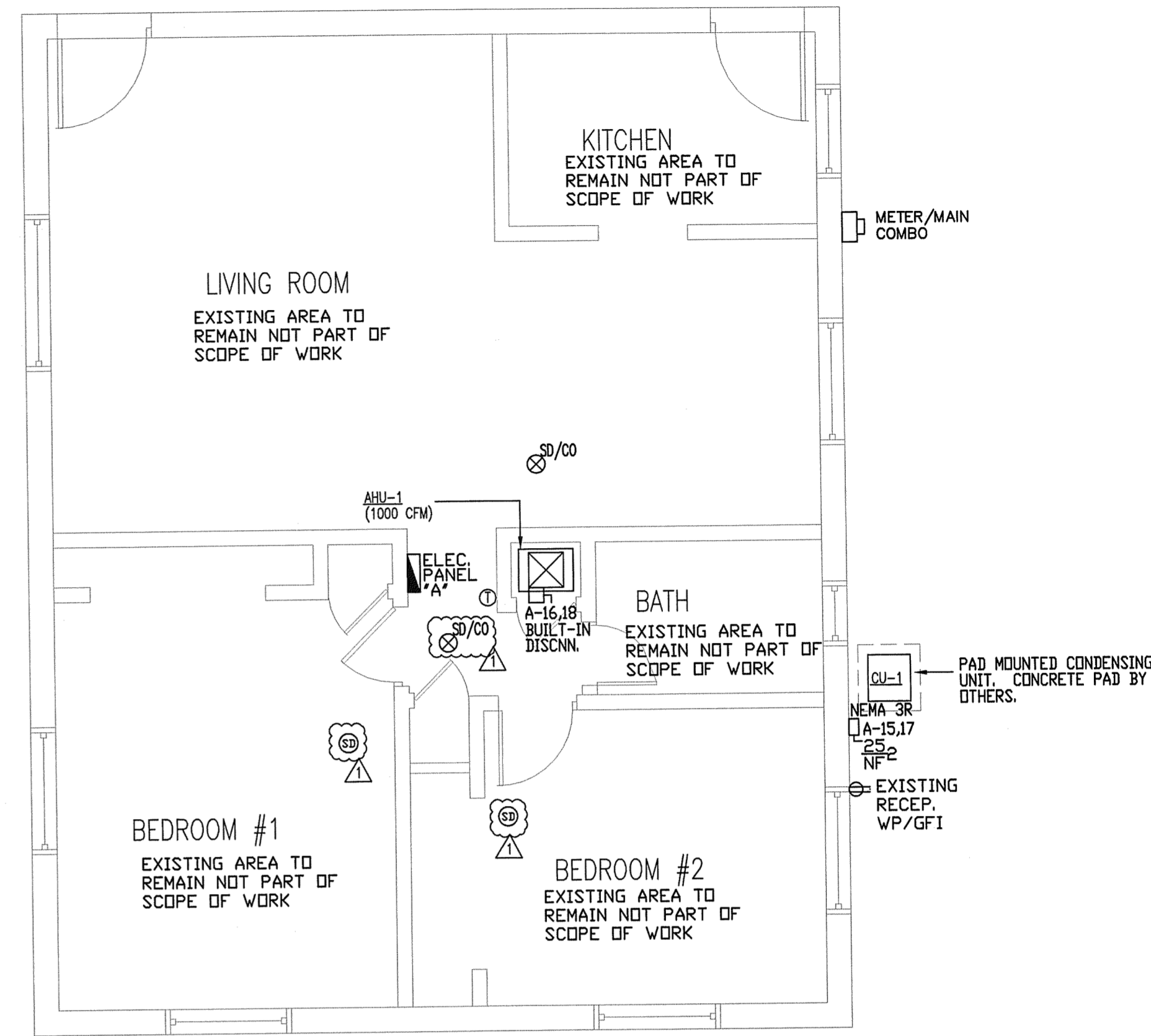


ELECTRICAL NOTES

- THE ENTIRE INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) NFPA-70 2008 AND THE LATEST EDITIONS OF ALL LOCAL CODES, RULES AND ORDINANCES HAVING JURISDICTION.
- ALL EQUIPMENT, DEVICES AND ELECTRICAL EQUIPMENT MUST BE APPROVED BY UNDERWRITERS LABORATORY (U.L.), OR ANY NATIONAL RECOGNIZED TESTING AGENCY.
- IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS NECESSARY FOR EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER.
- CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THERE BY.
- ALL REQUIRED INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
- ALL CONDUCTORS SHALL BE COPPER TYPE THHN EXCEPT AS OTHERWISE NOTED.
 - MINIMUM WIRE SIZE SHALL BE #14 A.W.G. UNLESS OTHERWISE NOTED.
 - LOAD CENTERS AND PANELBOARDS:
 - CURRENT CARRYING BUSES SHALL BE COPPER. GROUND BUS BARS SHALL BE COPPER.
 - ALL CIRCUIT BREAKERS INSTALLED IN PANELBOARDS SHALL BE BOLT-ON.
 - ALL CIRCUIT BREAKERS INSTALLED IN LOAD CENTERS SHALL BE PLUG-IN.
 - ALL CIRCUIT BREAKERS SUPPLYING 125 VOLTS, SINGLE PHASE, 15 AMPS AND 20 AMPS OUTLETS IN DWELLING UNIT BEDROOMS SHALL BE AFCI-FAULT CIRCUIT INTERRUPTER TYPE.
 - ALL CIRCUIT BREAKERS FEEDING MECHANICAL EQUIPMENT SHALL BE HACR TYPE CIRCUIT BREAKERS.
 - A.I.C. RATINGS SHALL BE AS INDICATED ON PANELBOARD SCHEDULES.
- WIRING METHODS:
 - SCHEDULE 40 PVC CONDUIT, WITH FITTINGS AND COUPLINGS APPROPRIATE FOR THE USE, SHALL BE INSTALLED UNDERGROUND OR BELOW SLABS ON GRADE.
 - ELECTRICAL NONMETALLIC TUBING (EMT), WITH FITTINGS AND COUPLINGS APPROPRIATE FOR THE USE IS ACCEPTABLE FOR USE WITH INTERIOR BRANCH CIRCUIT WIRING CONCEALED IN WALLS OR ABOVE SUSPENDED CEILING AND AS APPROVED BY THE AUTHORITY HAVING JURISDICTION.
 - TYPE MC (METAL CLAD) CABLE WITH ALUMINUM ARMOR AND INTERNAL GROUND IS ACCEPTABLE FOR USE AS GENERAL BRANCH CIRCUIT WIRING FOR CIRCUITS 20 AMPS OR LESS AND CONCEALED IN WALLS OR ABOVE SUSPENDED CEILING AND AS APPROVED BY THE AUTHORITY HAVING JURISDICTION.
 - TYPE NM (NONMETALLIC SHEATH) CABLE WITH INTERNAL GROUND IS ACCEPTABLE FOR USE AS GENERAL BRANCH CIRCUIT WIRING FOR CIRCUITS AND CONCEALED IN WALLS OR ABOVE CEILING AND AS APPROVED BY THE AUTHORITY HAVING JURISDICTION.
- CONTRACTOR SHALL COORDINATE WITH ELECTRICAL, TELEPHONE AND CABLE UTILITY COMPANY REPRESENTATIVE, SERVICE ENTRANCE LOCATION AND ANY OTHER REQUIREMENT.
- SERVICE ENTRANCE ELECTRICAL EQUIPMENT SHALL BE AS SPECIFIED ON PLANS. ALL OTHER DEVICES DOWNSTREAM OF MAIN BREAKER TO BE 12K AIC RATED UNLESS OTHERWISE NOTED.
- BEFORE ANY ELECTRICAL EQUIPMENT INSTALLATION, CONTRACTOR SHALL FIELD VERIFY THE SIZE OF THE FEEDERS AND OVER CURRENT PROTECTION DEVICES WITH MANUFACTURER'S EQUIPMENT SPECIFICATION.
- PROVIDE DISCONNECT SWITCHES FOR A/C EQUIPMENT AND PUMPS PER MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE GROUND FAULT CIRCUIT INTERRUPTER PROTECTION (GFI) AS PER NEC 210-8(g). THIS SHALL INCLUDE BATHROOMS, GARAGES, OUTDOOR RECEPTACLES, KITCHENS AND AT WET BAR SINK ARE, AS APPLICABLE.
- PROVIDE COMBINATION TYPE ARC FAULT PROTECTION CIRCUIT BREAKER (AFCI) FOR OUTLETS INSTALLED IN ALL DWELLING UNITS ROOMS, EXCEPT FOR KITCHENS, BATHROOM, GARAGE, UNFINISHED BASEMENTS AND ROOMS OR AREAS NOT SPECIFIED IN SECTION 210-12. PROVIDE DEDICATED NEUTRAL WIRE FOR EACH ARC FAULT CIRCUIT BREAKER.
- PROVIDE PRE-WIRED TELEPHONE AND CABLE TV OUTLETS AS SHOWN ON PLAN. OR AS IDENTIFIED ON OPTIONS SHEETS.
- SMOKE DETECTORS SHALL HAVE A SELF CONTAINED BATTERY BACK UP AND BE CONNECTED TO LIGHTING CIRCUIT AHEAD OF SWITCHES. ALL SMOKE DETECTORS WITHIN THE HOUSE SHALL BE INTERCONNECTED FOR SIMULTANEOUS OPERATION, AND SHALL BE ON AN ARC FAULT CIRCUIT INTERRUPTER
- HYDROMASSAGE BATHTUBS SHALL BE INSTALLED AS PER NEC 680
 - ACCESSIBILITY SHALL BE PROVIDED AS PER NEC 680-73
 - ALL METAL PIPE SYSTEM, METAL PARTS OF ELECTRICAL EQUIPMENT, AND PUMP MOTORS ASSOCIATED WITH THE HYDROMASSAGE TUB SHALL BE BONDED TOGETHER USING A COPPER BONDING JUMPER, INSULATED, COVERED OR BARE, NO SMALLER THAN # 8 SOLID AS PER NEC 680-74
- ELECTRICAL DEVICES SHALL BE MOUNTED AS NOTED BELOW, UNLESS SPECIFICALLY NOTED OTHERWISE:
 - GENERAL PURPOSE RECEPTACLES: 10" AFF TO BOTTOM OF FIXTURE
 - LIGHT SWITCH: 44" AFF TO BOTTOM OF FIXTURE
- LIGHTS LOCATED ABOVE SHOWER OR BATH TUB SHALL BE SUITABLE FOR WET LOCATION (SHOWER TRIM).
- ALL RECEPTACLES SHALL BE TAMPER RESISTANCE.

ELECTRICAL LEGEND

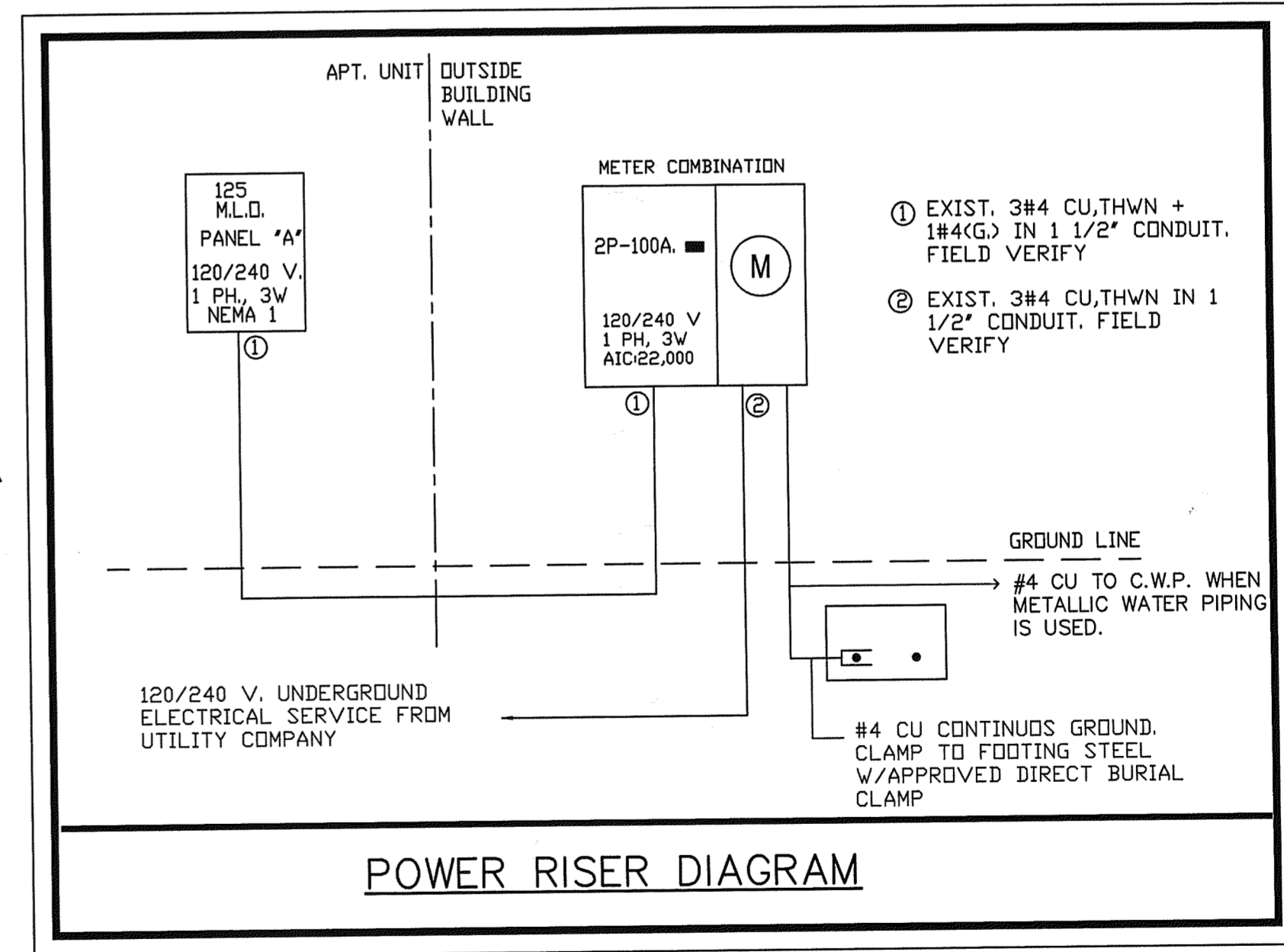
SYMBOL	DESCRIPTION
	JUNCTION BOX, MOUNTING AS SHOWN
	ELECTRICAL PANEL, SEE PANEL SCHEDULE SHEET(S) FOR DETAILS
	EXHAUST FAN
	DISCONNECT SWITCH
	MOTOR STARTER
	THERMOSTAT
	SMOKE DETECTOR
	COMBINE SMOKE/CARBON MONOXIDE DETECTOR



ELECTRICAL PLAN

SCALE: 1/4" = 1'-0"

Existing Panel A											
PANEL: 42 Circuit Breaker				VOLTAGE:: 120/240				MAIN : 125 M.L.O.			
FEEDER: EXIST. 3#4 + 1#4(G) IN 1 1/2" C. Field verify											
Wire	Pole	Bkr	Description	Circuit	Watts	Watts	Circuit	Description	Bkr	Pole	Wire
#6	2	60	Exist. Range	1	10000	4500	2	Exist. Water heater	25	2	#10
				3			4				
#12	1	20	Exist. Refrigerator	5	1200	700	6	Exist. Ltg./Receptacles	15	1	#14
#12	1	20	Exist. Small appliance	7	1500	1000	8	Exist. Load	20	1	#12
#12	1	20	Exist. Small appliance	9	1500	0	10	SPARE	30	2	
#14	1	15	Exist. Receptacles	11	700		12				
#14	1	15	Exist. Ltg./Receptacles	13	700	1500	14	Exist. Load	20	1	#12
#10	2	25	NEW A/C C.U. UNIT	15	3408	2450	16	NEW A/C AHU UNIT (Heater 5 KVA)	30	2	#10
				17			18				
				19			20				
						AFCI: ARC FAULT CIRCUIT INTERRUPTER					
Load subject to demand factor calculations / line					15600	BASE ON A/C NON-COINCIDENT LOADS					
Demand Factor Calculations:											
Total load subject to demand factor						23300					
First 10000 watts at 100%						10000					
Remaining watts at 40%						5320					
A/C Load at 65%						3408					
Total Connected Load						Watts 18728					
Amps (watts / 240 volts)						Amps 78.0					



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Royal Engineering Service, Corp.

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Service, Corporation.

Cert. of Authorization
#27116
MARIA DIAZ, PE # 62930

14798 SW 142 Street
Miami, FL 33198
Tel. 305-790-0855

FILE NAME.

SCALE 1/4"=1'-0"

DATE 1.30.12

RV'D. BY MD

DRWN. BY MD

REVISION
CITY COMM. 3-8-12

SEAL
MARIA DIAZ, PE FL #62930

SHEET # OF
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